

Reflections on the systematics of *Accipiter* and the genus for *Falco superciliosus* Linnaeus

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In a previous study, I reviewed the distribution of the procoracoid foramen in the family Accipitridae (Olson 1988). In summary, the procoracoid foramen is invariably absent in *Accipiter*, nearly absent in *Harpagus*, and lacking in some species or individuals of *Circus* but variably present in others. The foramen is present in all other genera of Accipitridae and this is obviously the primitive condition, as it is also present in most other diurnal birds of prey (Cathartidae, Sagittariidae and Falconidae).

At the time, I considered that the shared derived condition of the procoracoid in *Accipiter* and some *Circus* to be tenuous evidence of relationship at best (Olson 1988). A morphological analysis of the Accipitridae did not group *Circus* with *Accipiter*, although it did suggest that *Harpagus* was related to *Accipiter* and not to any of the kites (Holdaway 1994). In a recent molecular phylogeny (Lerner & Mindell 2005), however, *Circus* and *Accipiter* group rather conclusively as each other's closest relative, bearing out the conclusions of an earlier preliminary study (Mindell *et al.* 1997). Unfortunately, neither study included *Harpagus*, which seems odd as tissue samples are readily available.

Though the two genera are very different in their habits, it is noteworthy that at least twice, evolution has resulted in a *Circus* with a more *Accipiter*-like morphology. The long-winged, soaring species of *Circus* are much better adapted for over-water dispersal than are many *Accipiter* with their short wings and rapid flight. On remote, oceanic islands birds may often be the main or only source of vertebrate food, making it advantageous to adopt the bird-catching habits and proportions of an *Accipiter*. This happened in Hawaii, where bones of the small species *Circus dosseus* were initially considered to be those of an *Accipiter* (Olson & James 1991). In New Zealand, the giant fossil species *Circus eylesi* likewise evolved the proportions of an *Accipiter* and was also first mistaken for a member of that genus (Worthy & Holdaway 2002).

One of the species that I was unable to examine in my assessment of the procoracoid foramen (Olson 1988) was Tiny Hawk, which has long been known as *Accipiter superciliosus*, based on *Falco superciliosus* Linnaeus, 1766. Since then a skeleton has become available (USNM 586298). In this, the procoracoid process has a very distinct foramen, immediately suggesting that this species may not belong in *Accipiter*. With this realisation, it is obvious that the configuration of the skull, sternum and pelvis are very different from *Accipiter*, and the hindlimb bones are much more robust than the extremely gracile elements of *Accipiter*. Molecular

studies of the same specimen likewise indicate that Tiny Hawk is not related to *Accipiter* (M. J. Braun pers. comm.).

Whereas it will remain for future studies to determine the position of Tiny Hawk within the Accipitridae, it is clear that the species can no longer be maintained in *Accipiter*. As it has no obvious relationship with any other group, it requires its own generic name. One is already available, the history of which was outlined by Hellmayr & Conover (1949). Kaup (1844: 116) proposed the name *Hieraspiza* for several East Indian species ('*einige ostindische Arten*') of *Nisus* (= *Accipiter*) to which he thought the species *virgatus* might also belong. He later (1847: col. 169) specifically listed the species *tinus*, *minulus* and *virgatus* as pertaining to *Hieraspiza*. Of these, Gray (1855) designated *Falco tinus* Latham, 1790, as the type, this being a synonym of *F. superciliosus* Linnaeus, 1766. Therefore, the Tiny Hawk should now be known as *Hieraspiza superciliosa*.

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